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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Ali LAAYOUN et al.

Application No.: 10/590,973

Filed: August 28, 2006

Docket No.: 129219

For: LABELING REAGENTS, METHODS FOR THE SYNTHESIS OF SUCH REAGENTS
AND METHODS FOR THE DETECTION OF BIOLOGICAL MOLECULES

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

- 1. This Information Disclosure Statement is being filed (a) within three months of the U.S. filing date of this non-CPA application, OR (b) before the mailing date of a first Office Action on the merits in the present application. No certification or fee is required.
- 2. Relevance of one or more non-English language reference is discussed in the present specification. See References 17-49.
- 3. One or more references cited herein was cited in the International Search Report. An English language version of the International Search Report is attached for the Examiner's information. See References 33-34, 50 and 61-65.
- 4. In accordance with 37 CFR §1.98(a)(2)(ii), copies of any U.S. patents and patent application publications are not attached.

5. An English language Abstract of one or more non-English language reference is attached hereto. See References 21, 23-29, 31-40 and 45-49.

Respectfully submitted,

William P. Berridge
Registration No. 30,024

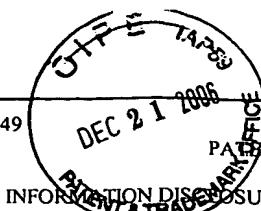
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Date: December 21, 2006

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Form PTO-1449
(REV. 1/06)US Dept. of Commerce
PATENT & TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

ATTY DOCKET NO.
129219APPLICATION NO.
10/590,973APPLICANT(S)
Ali LAAYOUN et al.FILING DATE
August 28, 2006

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number	Date	Name	
	1	US 5,449,767	09/12/1995	Ward et al.	
	2	US 5,328,824	07/12/1994	Ward et al.	
	3	US 4,507,466	03/26/1985	Tomalia et al.	
	4	US 4,568,737	02/04/1986	Tomalia et al.	
	5	US 6,083,708	07/04/2000	Singh et al.	
	6	US 4,683,195	07/28/1987	Mullis et al	
	7	US 4,683,202	07/28/1987	Mullis	
	8	US 4,800,159	01/24/1989	Mullis et al.	
	9	US 5,399,491	03/21/1995	Kacian et al.	
	10	US 6,576,448 B2	06/10/2003	Weissman et al.	
	11	US 6,110,426	08/29/2000	Shalon et al.	
	12	US 6,083,763	07/04/2000	Balch	
	13	US 6,083,762	07/04/2000	Papen et al.	
	14	US 5,234,809	08/10/1993	Boom et al.	
	15	US 4,672,040	06/09/1987	Josephson	
	16	US 5,750,338	05/12/1998	Collins et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number	Date	Country	With English Abstract	With English Translation

OTHER DOCUMENTS

Examiner Initials	Cite No.	(Including Author, Title, Date, Pertinent Pages, etc.)

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Examiner Initials	Cite No.	Document Number	Date	Country	With English Abstract	With English Translation	
	17	EP 0.329.198 A2	08/23/1989	Europe			
	18	EP 0.302.175 A2	02/08/1989	Europe			
	19	EP 0.097.373 A2	01/04/1984	Europe			
	20	EP 0.063.879 A2	11/03/1982	Europe			
	21	EP 0.567.841 A2	11/03/1993	Europe	X		
	22	EP 0.286.898 A2	10/19/1988	Europe			
	23	EP 0.561.722 A1	09/22/1993	Europe	X		
	24	EP 0.669.991 B1	09/06/1995	Europe	X		
	25	EP 0.827.552 B1	03/11/1998	Europe	X		
	26	EP 0.350.407 B1	01/10/1990	Europe	X		
	27	EP 0.569.272 B1	11/10/1993	Europe	X		
	28	DE 3.910.151 A1	10/04/1990	Germany	X		
	29	FR 2 607 507	06/03/1988	France	X		
	30	WO 93/16094 A2	08/19/1993	WIPO			
	31	WO 99/35500 A1	07/15/1999	WIPO	X		
	32	WO 99/65926 A1	12/23/1999	WIPO	X		
	33	WO 02/090319 A1	11/14/2002	WIPO	X		
	34	WO 02/090584 A2	11/14/2002	WIPO	X		
	35	WO 01/92361 A1	12/06/2001	WIPO	X		
OTHER DOCUMENTS							
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	36	WO 00/40590 A2	07/13/2000	WIPO		X		
	37	WO 98/05766 A1	02/12/1998	WIPO		X		
	38	WO 00/07982 A1	02/17/2000	WIPO		X		
	39	WO 01/92361 A1	12/06/2001	WIPO		X		
	40	WO 95/08000 A2	03/23/1995	WIPO		X		
	41	WO 01/44506 A1	06/21/2001	WIPO				
	42	WO 90/01069 A1	02/08/1990	WIPO				
	43	WO 90/06995 A1	06/28/1990	WIPO				
	44	WO 91/02818 A1	03/07/1991	WIPO				
	45	WO 00/60049 A1	10/12/2000	WIPO		X		
	46	WO 00/05338 A1	02/03/2000	WIPO		X		
	47	WO 99/53304 A1	10/21/1990	WIPO		X		
	48	WO 99/15621 A1	04/01/1999	WIPO		X		
	49	WO 97/45202 A1	12/04/1997	WIPO		X		
	50	WO 88/04289 A1	06/16/1988	WIPO				
OTHER DOCUMENTS								
Examiner Initials	Cite No.	(Including Author, Title, Date, Pertinent Pages, etc.)						
	51	T.W. Greene et al., Protective Groups in Organic Synthesis, 3 rd Edition, John Wiley and Sons, Inc., New York (1991), pp. 230-245.						
	52	S. Hunt, "The Non-Protein Amino Acids," Chemistry and Biochemistry of the Amino Acids, edited by G.C. Barrett, Chapman and Hall, London (1985), pp. 55-138.						
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Examiner Initials	Cite No.	(Including Author, Title, Date, Pertinent Pages, etc.)				
	53	M. O'Donnell et al., "Reporter Groups for the Analysis of Nucleic Acid Structure," <i>Bioorganic Chemistry: Nucleic Acids</i> , Oxford University Press (1996), pp. 216-243.				
	54	J. Randolph et al., "Stability, Specificity and Fluorescence Brightness of Multiply-labeled Fluorescent DNA Probes," <i>Nucleic Acids Research</i> (1997), Vol. 25, No. 14, pp. 2923-2929.				
	55	T. Livache et al., "Preparation of a DNA Matrix Via an Electrochemically Directed Copolymerization of Pyrrole and Oligonucleotides Bearing a Pyrrole Group," <i>Nucleic Acids Research</i> (1994), Vol. 22, No. 15, 2915-2921.				
	56	J. Cheng et al., "Preparation and Hybridization Analysis of DNA/RNA from <i>E. coli</i> on Microfabricated Bioelectronic Chips," <i>Nature Biotechnology</i> , Volume 16 (1998), pp. 541-546.				
	57	T. Okamoto et al., "Microarray Fabrication with Covalent Attachment of DNA Using Bubble Jet Technology," <i>Nature Biotechnology</i> , Vol. 18 (2000), pp. 438-441.				
	58	G. Ramsay, "DNA Chips: State-of-the Art," <i>Nature Biotechnology</i> , Vol. 16 (1998), pp. 40-44.				
	59	J. Cheng et al., "Microchip-based Devices for Molecular Diagnosis of Genetic Diseases," <i>Molecular Diagnosis</i> , Vol. 1, No. 3 (1996), pp. 183-200.				
	60	T. Holton et al., "Advantageous Syntheses of Diazo Compounds by Oxidation of Hydrazones with Lead Tetraacetate in Basic Environments," <i>J. Org. Chem.</i> (1995), Vol. 60, pp. 4725-4729.				
	61	A. Laayoun et al., "Aryldiazomethanes for Universal Labeling of Nucleic Acids and Analysis on DNA Chips," <i>Bioconjugate Chem.</i> (2003), Vol. 14, pp. 1298-1306.				
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Examiner Initials	Cite No.	(Including Author, Title, Date, Pertinent Pages, etc.)						
	62	M. Shiga et al., "Synthesis of a Novel Biotin Derivative That Bears a Diazo Group as the Reactive Site," Analytical Sciences (1993), Vol. 9, pp. 553-556.						
	63	M. Shiga et al., "Fluorescence Detection of DNA Using a Novel Peroxidase Substrate, 4-(4-Hydroxyphenylcarbamoyl)butanoic Acid," Analytical Sciences (1995), Vol. 11, pp. 591-595.						
	64	P. Langer et al., "Enzymatic Synthesis of Biotin-labeled Polynucleotides: Novel Nucleic Acid Affinity Probes," Proc. Natl. Acad. Sci. USA, Vol. 78, No. 11 (1981), pp. 6633-6637.						
	65	E. Bayer et al., "The Use of the Avidin-Biotin Complex as a Tool in Molecular Biology," Methods of Biochemical Analysis, Vol. 26 (1980), pp. 1-45.						
	66	G. Pratviel et al., "Carbon-Hydrogen Bonds of DNA Sugar Units as Targets for Chemical Nucleases and Drugs," Angew. Chem. Int. Ed. Engl., Vol. 34 (1995), pp. 746-769.						
	67	D. Sigman et al., "Chemical Nucleases," Chem. Rev., Vol. 93 (1993), pp. 2295-2316.						
	68	"2 Methods for the Preparation of Alkane, Alkene, and Alkyne Diazo Compounds," pp. 34-48.						
	69	B. Charleux et al., "Radical-initiated Copolymers of Styrene and p-Formylstyrene, 1 Solution Copolymerization and Characterization," Makromol. Chem., Vol. 193 (1992), pp. 187-203.						
	70	M. Egholm et al., "Peptide Nucleic Acids (PNA) Oligonucleotide Analogues with an Achiral Peptide Backbone," J. Am. Chem. Soc., Vol. 114 (1992), pp. 1895-1897.						
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	71	W. Jencks et al., "Reactivity of Nucleophilic Reagents toward Esters," J. Amer. Chem Soc., Vol. 82 (1960), pp. 1778-1786.		
	72	G. Pratviel et al., "DNA and RNA Cleavage by Metal Complexes," Adv. Org. Chem., Vol. 45 (1998), pp. 251-312.		
	73	F. Ginot, "Oligonucleotide Micro-Arrays for Identification of Unknown Mutations: How Far from Reality?," Human Mutation, Vol. 10 (1997), pp. 1-10.		
	74	X. Creary, "Tosylhydrazone Salt Pyrolyses: Phenyliazomethanes," Organic Synthesis, Coll., Vol. 7 (1990), pp. 438-443.		
	75	M. Oivanen et al., "Kinetics and Mechanisms for the Cleavage and Isomerization of the Phosphodiester Bonds of RNA by Bronsted Acids and Bases," Chem. Rev., Vol. 98 (1998), pp. 961-990.		
	76	S. Agrawal, "Protocols for Oligonucleotides and Analogs, Synthesis and Properties," Methods in Molecular Biology, Vol. 20, Humana Press, New Jersey.		
	77	S. Wong, "Chemistry of Protein Conjugation and Cross-Linking," CRC Press (1991) pp. 16-45.		
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